

### **REMARKS**

The Final Office Action mailed December 7, 2010 has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

#### **Rejection(s) Under 35 U.S.C. §103(a)**

Claims 1-13, 16 and 17 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Pawliszyn (U.S. pat. no. 4,940,333) and further in view of Fujiwara et al (*Liquid Core Optical Fiber Total Reflection Cell as a Colorimetric Detector for Flow Injection Analysis*, Anal. Chem. 1985, 57, 1012-1016).

Citing column 10, line 50 of Pawliszyn, the Examiner argues (p. 3) that Pawliszyn describes a “diode array...aligned on the reaction loop.” Referring to Figure 11, Pawliszyn states that “[p]hotodiode D3 is detector 85” (col. 10, ll. 50-51). Detector 85 is discussed in reference to Figure 10 (col. 10, ll. 30-32), which states, “Optical fiber 83 positioned in tubing 84 extends into the opposite end of cross 75 and is connected to a light detector 85.” Although detector 85 does not appear to be labeled in Figure 10, the text states that it is connected to optical fiber 83.

Pawliszyn describes photodiode D3 as a “single light sensor,” and teaches that a single sensor can be used “since the intensity of the light collected by optical fiber 83 is an indication of the deflection of the beam” (col. 10, ll. 45-47). Thus, Pawliszyn teaches to use a single diode, and teaches away from using a diode array, which will include multiple diodes.

Moreover, while the embodiment shown in Figure 10 of Pawliszyn does not show the transparent capillary tube 26 which is shown in Figure 5 of Pawliszyn, and upon which the Examiner relies to find a “transparent pipe according to independent claims 1 and 12. Claims 1 and 12 require a “diode array aligned on the reaction loop” which comprises a “transparent pipe.” Thus, Pawliszyn cannot possibly show such a diode array aligned on a reaction loop comprising a transparent pipe, because the only embodiment in which a single diode (not an array) can be found does not show a transparent pipe, and vice versa. Because Pawliszyn discloses position detectors, and measurement of deflection at a single point, it contains no teaching that would connect the two embodiments described therein, or to connect either or both of those embodiments with a diode array, as opposed to a single diode.

Because Pawliszyn measures the intensity of light as an indication of the deflection of the probe light beam at a single point, it is impossible within either embodiment of Pawliszyn to, for

example, determine “the position of the at least one color change point” as in claim 1, to detect a concentration gradient as in claim 2, or a space and time plot as per claim 9.

Dependent claims 2-11, 13, and 16-17 variously depend, directly or indirectly, from the base claims addressed above. Fujiwara fails to remedy the above-mentioned shortcomings of Pawliszyn with respect to the base claims, in part because Fujiwara does not disclose or teach a diode array. Accordingly, claims 2-11, 13, and 16-17, which by definition include all the limitations of the base claims, are patentable over the combination of these references.

In this case, the rejection based on the combination of Pawliszyn and Fujiwara fails to rise to the level of a *prima facie* case of obviousness, at least for the reasons outlined above. Accordingly, it is respectfully urged that the obviousness rejection of claims 1-13 and 16-17 is improper and should be withdrawn.

### **Conclusion**

In view of the preceding discussion, Applicants respectfully urge that the claims of the present application define patentable subject matter and should be passed to allowance.

If the Examiner believes that a telephone call would help advance prosecution of the present invention, the Examiner is kindly invited to call the undersigned attorney at the number below.

Please charge any additional required fees, including those necessary to obtain extensions of time to render timely the filing of the instant Amendment and/or Reply to Office Action, or credit any overpayment not otherwise credited, to our deposit account no. 50-3557.

Respectfully submitted,  
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